



SEQUENCE LISTING

<110> Junghans, Richard P.

<120> Antibodies as Chimeric Effector Cell Receptors Against Tumor Antigens

<130> 003

<140> 10/006,773

<141> 2001-10-12

<150> 60/250,089

<151> 2000-11-30

<160> 19

<170> PatentIn version 3.1

<210> 1

<211> 7654

<212> DNA

<213> Homo sapiens and Mus sp.

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<221> CDS

<222> (2428)..(3759)

<223> Chimeric IgTCR sequence contained in retroviral vector. Retroviral vector sequence (non-coding regions) are incidental to the invention. The translated (coding region) is relevant to the invention. (pertinent to Figure 3.)

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Cys Lys Ala Ser Gln Asp Val Gly Thr Ser Val Ala Trp Tyr Gln Gln	
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Tyr Cys Gln Gln Tyr Ser Leu Tyr Arg Ser Phe Gly Gln Gly Thr Lys	

Antibodies as Chimeric Effector Cell.ST25

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ggc tca gga tgc gag gtc caa ctg gtg gag agc ggt gga ggt gtt gtg Gly Ser Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val	140	145	150
caa cct ggc cgg tcc ctg cgc ctg tcc tgc tcc gca tct ggc ttc gat Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ser Ala Ser Gly Phe Asp	155	160	165
ttc acc aca tat tgg atg agt tgg gtg aga cag gca cct gga aaa ggt Phe Thr Thr Tyr Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly	170	175	180
ctt gag tgg att gga gaa att cat cca gat agc agt acg att aac tat Leu Glu Trp Ile Gly Glu Ile His Pro Asp Ser Ser Thr Ile Asn Tyr	190	195	200
gcg ccg tct cta aag gat aga ttt aca ata tgc cga gac aac gcc aag Ala Pro Ser Leu Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys	205	210	215
aac aca ttg ttc ctg caa atg gac agc ctg aga ccc gaa gac acc ggg Asn Thr Leu Phe Leu Gln Met Asp Ser Leu Arg Pro Glu Asp Thr Gly	220	225	230
gtc tat ttt tgt gca agc ctt tac ttc ggc ttc ccc tgg ttt gct tat Val Tyr Phe Cys Ala Ser Leu Tyr Phe Gly Phe Pro Trp Phe Ala Tyr	235	240	245
tgg ggc caa ggg acc ccg gtc acc gtc tcc agt gct aag ccc acc acg Trp Gly Gln Gly Thr Pro Val Thr Val Ser Ser Ala Lys Pro Thr Thr	250	255	260
acg cca gcg ccg cga cca cca aca ccg gcg ccc acc atc gcg tgc cag Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln	270	275	280
ccc ctg tcc ctg cgc cca gag gcg gct cgg cca gcg gcg ggg ggc gca Pro Leu Ser Leu Arg Pro Glu Ala Ala Arg Pro Ala Ala Gly Gly Ala	285	290	295
gtg cac acg agg ggg ctg gac ttc gcc ctg gat ccc aaa ctc tgc tac Val His Thr Arg Gly Leu Asp Phe Ala Leu Asp Pro Lys Leu Cys Tyr			

Antibodies as Chimeric Effector Cell.ST25

300	305	310	
ctg ctg gat gga atc ctc ttc atc tat ggt gtc att ctc act gcc ttg Leu Leu Asp Gly Ile Leu Phe Ile Tyr Gly Val Ile Leu Thr Ala Leu 315 320 325			3414
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gag tac gat gtt ttg gac aag aga cgt ggc cgg gac cct gag atg ggg Glu Tyr Asp Val Leu Asp Lys Arg Arg Gly Arg Asp Pro Glu Met Gly 365 370 375			3558
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cag aaa gat aag atg gcg gag gcc tac agt gag att ggg atg aaa ggc Gln Lys Asp Lys Met Ala Glu Ala Tyr Ser Glu Ile Gly Met Lys Gly 395 400 405			3654
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 <213> Homo sapiens and Mus sp.

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Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val
 35 40 45

Gly Thr Ser Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
 50 55 60

Antibodies as Chimeric Effector Cell.ST25

Leu Leu Ile Tyr Trp Thr Ser Thr Arg His Thr Gly Val Pro Ser Arg
65 70 75 80

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser
85 90 95

Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Leu
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Tyr Arg Ser Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Gly Gly
115 120 125

Ser Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly Ser Glu Val Gln
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Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg
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Leu Ser Cys Ser Ala Ser Gly Phe Asp Phe Thr Thr Tyr Trp Met Ser
165 170 175

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly Glu Ile
180 185 190

His Pro Asp Ser Ser Thr Ile Asn Tyr Ala Pro Ser Leu Lys Asp Arg
195 200 205

Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe Leu Gln Met
210 215 220

Asp Ser Leu Arg Pro Glu Asp Thr Gly Val Tyr Phe Cys Ala Ser Leu
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Tyr Phe Gly Phe Pro Trp Phe Ala Tyr Trp Gly Gln Gly Thr Pro Val
245 250 255

Antibodies as Chimeric Effector Cell.ST25

Thr Val Ser Ser Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro
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Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu
275 280 285

Ala Ala Arg Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly Leu Asp
290 295 300

Phe Ala Leu Asp Pro Lys Leu Cys Tyr Leu Leu Asp Gly Ile Leu Phe
305 310 315 320

Ile Tyr Gly Val Ile Leu Thr Ala Leu Phe Leu Arg Val Lys Phe Ser
325 330 335

Arg Ser Ala Glu Pro Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr
340 345 350

Asn Glu Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys
355 360 365

Arg Arg Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn
370 375 380

Pro Gln Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu
385 390 395 400

Ala Tyr Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly
405 410 415

His Asp Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr
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Asp Ala Leu His Met Gln Ala Leu Pro Pro Arg
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Antibodies as Chimeric Effector Cell.ST25

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 <211> 504
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 <213> Mus sp.

<220>
 <221> CDS
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Gly Val Gln Cys Glu Val Val Val Val Glu Ser Gly Gly Gly Phe Val		
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aag cct gga ggg tcc ctg aaa ctc tcc tgt gca gcc gct gga ttc act		146
Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ala Gly Phe Thr		
35 40 45		
ttc agt aga tat gcc atg tct tgg gtt cgc cag act ccg gag aag agg		194
Phe Ser Arg Tyr Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg		
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ctg gag tgg gtc gca acc ata agt agt ggt ggt agt cac acc tac tat		242
Leu Glu Trp Val Ala Thr Ile Ser Ser Gly Gly Ser His Thr Tyr Tyr		
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Pro Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys		
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Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala		
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Ile Tyr Tyr Cys Ala Arg Pro Gly Tyr Asp Arg Gly Ala Trp Phe Phe		
115 120 125		
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Asp Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser		
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<212> PRT
<213> Mus sp.

<400> 4

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Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ala Gly Phe Thr Phe
35 40 45

Ser Arg Tyr Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu
50 55 60

Glu Trp Val Ala Thr Ile Ser Ser Gly Gly Ser His Thr Tyr Tyr Pro
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Ile
100 105 110

Tyr Tyr Cys Ala Arg Pro Gly Tyr Asp Arg Gly Ala Trp Phe Phe Asp
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Val Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser
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<210>	5
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<212>	DNA
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<222> (16)..(399)
<223> MB3.6 Light chain V region, plus leader
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 20 25 30

Val Thr Pro Gly Asp Ser Val Ser Leu Ser Cys Arg Ala Ser Gln Ile
 35 40 45

Ile Ser Asn Asn Leu His Trp Tyr Gln Gln Lys Ser His Glu Ser Pro
 50 55 60

Arg Leu Leu Ile Lys Tyr Ala Ser Gln Ser Ile Ser Gly Ile Pro Ser
 65 70 75 80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn
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Ser Val Glu Thr Glu Asp Phe Gly Met Tyr Phe Cys Gln Gln Ser Asn
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Ser Trp Pro Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg
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nnnnnnnnnn	nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnngggac aaagctggag	120
atcaaagggtg	gctcaggatc ggggtggagcc ggctctgggtg gctcaggatc ggaagtgggtg	180
gtgggtggagn	nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnacc	240
acggtcaccg	tctccagt	258

<210>	8
<211>	682
<212>	DNA
<213>	Mus sp.

```
<220>
<221> CDS
<222> (20)..(418)
<223> 3D8 Heavy chain V region, plus leader
```

[illegible]

Antibodies as Chimeric Effector Cell.ST25

```

agc acc ttc tat gca gac aat gta aag ggc cga ttc acc atc tcc aga      292
Ser Thr Phe Tyr Ala Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg
                        80                        85                        90

gag aat gcc aag aac acc ctg tac ctg caa atg agt agt ctg aag tct      340
Glu Asn Ala Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser
                        95                        100                        105

gag gac acg gcc ttg tat tac tgt gca aga gac gat cta ttt aac tgg      388
Glu Asp Thr Ala Leu Tyr Tyr Cys Ala Arg Asp Asp Leu Phe Asn Trp
                        110                        115                        120

ggc caa ggc acc act ctc aca gtc tca tca gccaaaacaa cagccccatc      438
Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
                        125                        130

gggtctatcca ctggcccctg tgtgtggaga tacaattggc tcctcgggtga ctttaggatg      498
cctgggtcaag gggtatttcc ttgagccagt gaccttgacc tggaactctg gatccctgtc      558
cagtgggtgtg cacatcttcc cagctgtctt gcagtctgac ctctacaccc tcagcagctc      618
agtgactgta acctcgagca cctggcccag ccagtccatc acttgcaatg tggcccaccc      678
ggca                                                                682

```

<210> 9
 <211> 133
 <212> PRT
 <213> Mus sp.

<400> 9

```

Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val Leu Val Leu Lys Gly
1          5          10          15

```

```

Val Gln Cys Glu Val Lys Val Val Glu Ser Gly Gly Gly Leu Val Lys
20          25          30

```

```

Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35          40          45

```

```

Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Thr Ser Asp Lys Arg Leu

```


Antibodies as Chimeric Effector Cell.ST25

Ser	Gln	Ser	Leu	Leu	Tyr	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	Asn	Trp	Leu	
45					50					55					60	
tta	cag	agg	cca	ggc	cag	tct	cca	aag	cgc	cta	atc	tat	ctg	gtg	tct	242
Leu	Gln	Arg	Pro	Gly	Gln	Ser	Pro	Lys	Arg	Leu	Ile	Tyr	Leu	Val	Ser	
				65					70					75		
aaa	ctg	gac	tct	gga	gtc	cct	gac	agg	ttc	act	ggc	agt	gga	tca	gga	290
Lys	Leu	Asp	Ser	Gly	Val	Pro	Asp	Arg	Phe	Thr	Gly	Ser	Gly	Ser	Gly	
			80					85					90			
aca	gat	ttt	aca	ctg	aaa	atc	agc	aga	gtg	gag	gct	gag	gat	ttg	gga	338
Thr	Asp	Phe	Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	
		95					100					105				
gtt	tat	tac	tgc	gtg	caa	ggt	aca	cat	ttt	cct	cac	acg	ttc	gga	ggg	386
Val	Tyr	Tyr	Cys	Val	Gln	Gly	Thr	His	Phe	Pro	His	Thr	Phe	Gly	Gly	
	110					115				120						
ggg	acc	aag	ctg	gaa	ata	aaa	cgg	gctgatgctg	caccaactgt	atccatcttc						440
Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg									
125					130											
ccaccatcca	gtgagcagtt	aacatctgga	ggtgcctcag	tcgtgtgctt	cttgaacaac											500
ttctacccca	aagacatcaa	tgtcaagtgg	aagattgatg	gcagtgaacg	acaaaatggc											560
gtcctgaaca	gttggactga	tcaggacagc	aaagacagca	cctacagcat	gagcagcacc											620
ctcacgttga	ccaaggacga	gtatgaacga	cataacagct	atacctgtga	ggccactcac											680
aagacatcaa	cttcacccat	tgtcaagagc	ttcaacagga	atgagtgtt												729

<210> 11
 <211> 132
 <212> PRT
 <213> Mus sp.

<400> 11

Met	Ser	Pro	Ala	Gln	Phe	Leu	Phe	Leu	Leu	Val	Leu	Trp	Ile	Gln	Glu
1				5					10					15	

Thr	Asn	Gly	Asp	Val	Val	Met	Thr	Gln	Thr	Pro	Leu	Thr	Leu	Ser	Val
			20					25					30		

Antibodies as Chimeric Effector Cell.ST25

Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu
35 40 45

Leu Tyr Ser Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro
50 55 60

Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser
65 70 75 80

Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys
100 105 110

Val Gln Gly Thr His Phe Pro His Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125

Glu Ile Lys Arg
130

<210> 12
<211> 736
<212> DNA
<213> Mus sp.

<220>
<221> CDS
<222> (14)..(430)
<223> 4D4 Heavy chain V region, plus leader

<400> 12
actgactcta acc atg gga tgg aga tgg atc ttt ctt ttc ctc ctg tca
Met Gly Trp Arg Trp Ile Phe Leu Phe Leu Leu Ser
1 5 10

gga act gca ggt gtc cat tgc cag gtt cag ctg cag cag tct gga cct
Gly Thr Ala Gly Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro
15 20 25

49

97

Antibodies as Chimeric Effector Cell.ST25

gag ctg gtg aag cct ggg gct tta gtg aag ata tcc tgc aag gct tct 145
 Glu Leu Val Lys Pro Gly Ala Leu Val Lys Ile Ser Cys Lys Ala Ser
 30 35 40

ggt tac acc ttc aca agc tac gat ata aac tgg gtg aag cag agg cct 193
 Gly Tyr Thr Phe Thr Ser Tyr Asp Ile Asn Trp Val Lys Gln Arg Pro
 45 50 55 60

gga cag gga ctt gag tgg att gga tgg att tat cct gga gat ggt ggt 241
 Gly Gln Gly Leu Glu Trp Ile Gly Trp Ile Tyr Pro Gly Asp Gly Gly
 65 70 75

act aat tac aat gag aaa ttc aag ggc aag gcc aca ctg act gca gac 289
 Thr Asn Tyr Asn Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp
 80 85 90

aaa tcc tcc agc aca gcc tac atg cag ctg agt agc ctg act tct gag 337
 Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu
 95 100 105

aac tct gca gtc tat ttc tgt gca aga ggg ggt aac ttc cct tct tat 385
 Asn Ser Ala Val Tyr Phe Cys Ala Arg Gly Gly Asn Phe Pro Ser Tyr
 110 115 120

gct atg gac tac tgg ggt caa gga acc tca gtc acc gtc tcc tca 430
 Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 125 130 135

gccaaaacga caccgccatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac 490

tccatggtga ccccgggatg cctggtcaag ggctatttcc ctgagccagt gacagtgacc 550

tggaactctg gatccctgtc cagcgggtgtg cacaccttcc cagctgtcct gcagtctgac 610

ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag cgagaccgtc 670

acctgcaacg ttgcccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg 730

gattgt 736

<210> 13
 <211> 139
 <212> PRT
 <213> Mus sp.

<400> 13

Antibodies as Chimeric Effector Cell.ST25

Met Gly Trp Arg Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
1 5 10 15

Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys
20 25 30

Pro Gly Ala Leu Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Ser Tyr Asp Ile Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu
50 55 60

Glu Trp Ile Gly Trp Ile Tyr Pro Gly Asp Gly Gly Thr Asn Tyr Asn
65 70 75 80

Glu Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser
85 90 95

Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asn Ser Ala Val
100 105 110

Tyr Phe Cys Ala Arg Gly Gly Asn Phe Pro Ser Tyr Ala Met Asp Tyr
115 120 125

Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
130 135

<210> 14
<211> 504
<212> DNA
<213> Mus sp.

<220>
<221> CDS
<222> (7)..(402)
<223> 4D4 Light chain V region, plus leader

```

<400> 14
ctcaaa atg aag ttg cct gtt agg ctg ttg gtg ctg atg ttc tgg att 48
      Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile
      1          5          10

cct gct tcc aac agt gat gtt ttg atg acc caa tct cca ctc tcc ctg 96
Pro Ala Ser Asn Ser Asp Val Leu Met Thr Gln Ser Pro Leu Ser Leu
15          20          25          30

cct gtc agt ctt gga gat caa gcc tcc atc tct tgc aga tct agt cag 144
Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln
35          40          45

agc att gtc cat agt aat gga gac acc tat tta gaa tgg tac ctg cag 192
Ser Ile Val His Ser Asn Gly Asp Thr Tyr Leu Glu Trp Tyr Leu Gln
50          55          60

aaa cca ggc cag tct cca aag ctg ctg atc tac aag gtt tcc gac cga 240
Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asp Arg
65          70          75

ttt tct ggg gtc cca gac agg ttc agt ggc agt gga tca ggg aca gat 288
Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
80          85          90

ttc aca ctc aag atc agc aga gtg gag gct gag gat ctg gga gtt tat 336
Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr
95          100          105          110

ttc tgc ttt caa ggt tca cat gtt ccg tac gcg ttc gga ggg ggg acc 384
Phe Cys Phe Gln Gly Ser His Val Pro Tyr Ala Phe Gly Gly Gly Thr
115          120          125

aag ctg gaa ata aaa cgg gctgatgctg caccaactgt atccatcttc 432
Lys Leu Glu Ile Lys Arg
130

ccaccatcca gtgagcagtt aacatctgga ggtgcctcag tcgtgtgctt cttgaacaac 492
504

ttctacccca aa

<210> 15
<211> 132
<212> PRT
<213> Mus sp.

<400> 15

```

Antibodies as Chimeric Effector Cell.ST25

Met Lys Leu Pro Val Arg Leu Leu Val Leu Met Phe Trp Ile Pro Ala
 1 5 10 15
 Ser Asn Ser Asp Val Leu Met Thr Gln Ser Pro Leu Ser Leu Pro Val
 20 25 30
 Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile
 35 40 45
 Val His Ser Asn Gly Asp Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro
 50 55 60
 Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val Ser Asp Arg Phe Ser
 65 70 75 80
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 85 90 95
 Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys
 100 105 110
 Phe Gln Gly Ser His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Leu
 115 120 125
 Glu Ile Lys Arg
 130

<210> 16
 <211> 761
 <212> DNA
 <213> Mus sp.

<220>
 <221> CDS
 <222> (62)..(478)
 <223> 3E11 Heavy chain V region, plus leader

Antibodies as Chimeric Effector Cell.ST25

```

<400> 16
cctggattca atttccagtt cctcacattc agtgatcagc actgaacacg gacccctcac 60
c atg aac ttc ggg ctc agc ttg att ttc ctt gtc ctt gtt tta aaa ggt 109
  Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val Leu Val Leu Lys Gly
    1          5          10          15
gtc cag tgt gaa gtg aaa ctg gtg gag tct ggg gga gac tta atg aac 157
Val Gln Cys Glu Val Lys Leu Val Glu Ser Gly Gly Asp Leu Met Asn
    20          25          30
cct gga gcg tct ctg aaa ctc tcc tgt gca gcc tct gga ttc agt ttc 205
Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe
    35          40          45
agt aac tat ggc atg tct tgg gtt cgc cag act tca gac aag agg ctg 253
Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Thr Ser Asp Lys Arg Leu
    50          55          60
gag tgg gtc gct tcc att agt acg ggt ggt gct aat acc ttc tat cca 301
Glu Trp Val Ala Ser Ile Ser Thr Gly Gly Ala Asn Thr Phe Tyr Pro
    65          70          75          80
gac aat gta aag ggc cga ttc acc att tcc aga gag aat gcc aag aac 349
Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn
    85          90          95
acc cta tac ctg caa atg agt agt ctg aag tct gag gac acg gcc ttg 397
Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu
    100          105          110
tat ttc tgt gca aga gat agt cac tcc gta ggt tgt tgg ttt gct acc 445
Tyr Phe Cys Ala Arg Asp Ser His Ser Val Gly Cys Trp Phe Ala Thr
    115          120          125
tgg ggc caa ggg act ctg gtc act gtc tct gca gccaaaacaa caccctcatc 498
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
    130          135
agtcctatcca ctggcccctg ggtgtggaga tactactggt tcctccgtga ctctgggatg 558
cctggtcaag ggctacttcc ctgagtcagt gactgtgact tggaactccg gatccctgcc 618
cagcagtgtg cacaccttcc cagctctcct gcagtctgga ctctacacta tgagcagctc 678
agtgactgtc cctccagca cctggccaag ccagaccgtt acctgcagtg ttgctcacc 738
agccagcagc accacggtgg aca 761

```


Antibodies as Chimeric Effector Cell.ST25

<210> 17
 <211> 139
 <212> PRT
 <213> Mus sp.

<400> 17

Met Asn Phe Gly Leu Ser Leu Ile Phe Leu Val Leu Val Leu Lys Gly
 1 5 10 15

Val Gln Cys Glu Val Lys Leu Val Glu Ser Gly Gly Asp Leu Met Asn
 20 25 30

Pro Gly Ala Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe
 35 40 45

Ser Asn Tyr Gly Met Ser Trp Val Arg Gln Thr Ser Asp Lys Arg Leu
 50 55 60

Glu Trp Val Ala Ser Ile Ser Thr Gly Gly Ala Asn Thr Phe Tyr Pro
 65 70 75 80

Asp Asn Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala Lys Asn
 85 90 95

Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Leu
 100 105 110

Tyr Phe Cys Ala Arg Asp Ser His Ser Val Gly Cys Trp Phe Ala Thr
 115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
 130 135

<210> 18
 <211> 698
 <212> DNA

. <213> Mus sp.

<220>

<221> CDS

<222> (6)..(401)

<223> 3E11 Light chain V region, plus leader

```

<400> 18
ccagc atg ggc atc aag atg gaa tca cag act ctg gtc ttc ata tcc ata 50
      Met Gly Ile Lys Met Glu Ser Gln Thr Leu Val Phe Ile Ser Ile
      1          5          10          15

ctg ctc tgg tta tat gga gct gat ggg aac att gta atg acc caa tct 98
Leu Leu Trp Leu Tyr Gly Ala Asp Gly Asn Ile Val Met Thr Gln Ser
      20          25          30

ccc aaa tcc atg tcc atg tca gta gga gag agg gtc acc ttg acc tgc 146
Pro Lys Ser Met Ser Met Ser Val Gly Glu Arg Val Thr Leu Thr Cys
      35          40          45

aag gcc agt gag aat gtg gtt act tat gtt tcc tgg tat caa cag aaa 194
Lys Ala Ser Glu Asn Val Val Thr Tyr Val Ser Trp Tyr Gln Gln Lys
      50          55          60

cca gag cag tct cct aaa ctg ctg ata tac ggg gca tcc aac cgg tac 242
Pro Glu Gln Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Arg Tyr
      65          70          75

act ggg gtc ccc gat cgc ttc aca ggc agt gga tct gca aca gat ttc 290
Thr Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Ala Thr Asp Phe
      80          85          90          95

act ctg acc atc agc agt gtg cag gct gaa gac ctt gca gat tat cac 338
Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Asp Tyr His
      100          105          110

tgt gga cag ggt tac agc tat ccg tac acg ttc gga ggg ggg acc aag 386
Cys Gly Gln Gly Tyr Ser Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys
      115          120          125

ctg gaa ata aaa cgg gctgatgctg caccaactgt atccatcttc ccaccatcca 441
Leu Glu Ile Lys Arg
      130

gtgagcagtt aacatctgga ggtgcctcag tcgtgtgctt cttgaacaac ttctacccca 501

aagacatcaa tgtcaagtgg aagattgatg gcagtgaacg acaaaatggc gtcctgaaca 561

```

Antibodies as Chimeric Effector Cell.ST25

gttggactga tcaggacagc aaagacagca cctacagcat gagcagcacc ctcacgttga 621
ccaaggacga gtatgaacga cataacagct atacctgtga ggccactcac aagacatcaa 681
cttcacccat cgtcaag 698

<210> 19
<211> 132
<212> PRT
<213> Mus sp.

<400> 19

Met Gly Ile Lys Met Glu Ser Gln Thr Leu Val Phe Ile Ser Ile Leu
1 5 10 15

Leu Trp Leu Tyr Gly Ala Asp Gly Asn Ile Val Met Thr Gln Ser Pro
20 25 30

Lys Ser Met Ser Met Ser Val Gly Glu Arg Val Thr Leu Thr Cys Lys
35 40 45

Ala Ser Glu Asn Val Val Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro
50 55 60

Glu Gln Ser Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Arg Tyr Thr
65 70 75 80

Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Ala Thr Asp Phe Thr
85 90 95

Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Asp Tyr His Cys
100 105 110

Gly Gln Gly Tyr Ser Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
115 120 125

Glu Ile Lys Arg

130